Evaluation of patient's quality of counselling in the context of diabetes treatment by community pharmacists for Public Health

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KEYWORDS

Patient Counseling, Diabetes Mellitus, Public Health, Community Pharmacies, Quality of Counseling

ABSTRACT

Providing Patient Counseling (PC) may be beneficial in enhancing disease treatment results, especially for chronic illnesses like Diabetes Mellitus (DbM), which is prevalent in underdeveloped countries. This research aims to examine the counseling and contentment levels of patients who visit diabetes clinics in Community Pharmacies (CP), intending to contribute to the field of Public Health (PH). This research aimed to evaluate the efficacy of PC services offered to individuals with DbM. In this cross-sectional research, a patient simulation technique was used with an organized survey of 560 CPs chosen to offer primary healthcare. The survey has been split into three sections: demographics, PC methods used during prescription collection, and satisfaction assessment of the services rendered. The results revealed that PC was offered for taking medication among patients with type 1 DbM, but it was lacking for patients with type 2 DbM. Patients were provided with insufficient counseling on the potential adverse effects and the need to adopt a healthier lifestyle. The degree of satisfaction was a mere 20.2%, suggesting that there may be a deficiency in PC services. The investigation has shown inadequate PC procedures and low levels of contentment in the services offered by CP to patients with DbM. Given the rising occurrence of DbM and the presence of other medical conditions, it is crucial to provide PCs with DbM.

1. Introduction

Overview of DbM and role of CP

DbM is a medical condition characterized by high levels of glucose in the blood due to abnormalities in the production or function of insulin [1]. DbM, an advancing metabolic condition, must be well controlled to prevent the development of capillary and macrovascular issues, which may result in long-term illness or death [2]. DbM care is a lifetime process that involves therapeutic interventions, strict compliance to medical recommendations, and changing one's lifestyle [4]. Effective medicine implementation relies on significant interaction between the doctor, CP, and patient [18, 6]. The work of a CP has transitioned from just dispensing medication to being an online influencer or advisor for patients [12]. The World Health Organization (WHO) has established a "seven-star paradigm" that emphasizes the need for CPs to have a role that extends beyond the dispensing of medications [15]. Local communities have convenient accessibility to CP, where pharmacists may play a significant role in teaching people with DbM, leading to better wellness and standard of life [13].

While the public widely uses CPs, dedication to conventional pharmaceutical methods has often made them untrustworthy [5]. Moreover, these pharmacies have significant burdens caused by excessive workloads, time constraints, insufficiently skilled personnel, and inadequate assistance from doctors and management [8, 9]. The Arab countries are implementing new measures, such as hiring qualified pharmacists at healthcare facilities and involving pharmacy colleges in establishing standardized CP regulations [8, 9]. The pharmacist may enhance DbM management by conducting diabetes screenings, evaluating patients' health condition and adherence to medication protocols, making appropriate referrals to various medical providers, and closely evaluating treatment results [14]. For optimal patient education on DbM, a CP should have certification as a DbM educator, be knowledgeable about the market, have strong interpersonal abilities, and be willing to dedicate time and energy to the task [7].

To get accreditation as a DbM instructor, pharmacists must have a minimum of 1100 hours of expertise in managing the disease condition of DbM patients and must pass a test [16]. To enhance patient education, CPs actively provide their services in outpatient clinics and community medical centers, resulting in improved medication effects for individuals with diabetes [11].

Assessing client happiness is crucial in evaluating the quality of treatment provided by medical professionals [17]. Hence, it is incumbent upon CPs to provide details regarding the secure and productive use of medications and to enlighten patients about their illness and related circumstances [3]. Therefore, it is essential to include comprehensive healthcare counseling as an integral patient training component [10]. This counseling should assist patients in altering their mindset and approach toward the condition and making necessary lifestyle modifications. This research examined the extent of counseling given to DbM patients who visit CPs [13]. Additionally, it sought to evaluate the contentment of patients with the counseling services offered by CPs.

2. Methodology

A cross-sectional survey was performed using a partially structured interview survey, first developed in English and then transformed into local languages. The investigation was carried out in three outpatient CPs. The smallest required sample size was estimated to ensure that, if met, it would provide sufficient evidence to support the study's results.

The Department of Health provided a compilation of CPs. Once the licensing of each CP was verified, the pharmacies were organized based on their geographic location and assigned a sequential number. CPs were methodically chosen from the list based on their identification number. CPs were selected using a sophisticated selection technique. Nine classes were created according to the administration's divisions of governance. The hierarchy was subdivided into four bases: city corporation, municipality, Taluk, and village region. The number of respondents was determined, considering medication accessibility during the pilot research. In conclusion, a total of 560 CPs were chosen. The research needed an appropriate practical sample of 275 for each CP, estimated using the internet-based population size estimator RaoSoft, with a trust interval of 96%.

Nevertheless, extending the survey over the predetermined number of respondents failed to offer any further or distinct new insights. This was evident in the ultimate sample size. The research used a deliberate sampling strategy to identify individuals who are mostly local nationals specifically. The survey/interview form consists of three parts. The first component comprises information about demographics, the existence and classification of other chronic diseases, such as DbM, and the drugs used. The second portion focuses on the various types of counseling provided when completing a prescription for treatment. This includes information on taking medicines and compliance, potential negative effects and warnings, medication interactions (especially with other drugs like herbal remedies), monitoring blood glucose levels and setting objectives, and providing guidance on maintaining an active lifestyle. The final element encompasses the assessment of the client's happiness with the services rendered and the extent to which these services have facilitated the patient's self-care, ultimately leading to better outcomes.

Information gathering

The research was carried out between November 2022 and February 2023. A cohort of 300 patients was surveyed and selected based on their voluntary agreement and permission to participate in the research. The research aims and anticipated results were communicated to those who responded. The list of participants consisted of individuals of both genders who have been diagnosed with DbM and are attending regular follow-up appointments at PH centers. The individuals in question are diabetes patients, whether or not they have other medical conditions, such as high blood pressure and cholesterol levels. Additionally, it is a requirement for respondents in this research to have consistently visited the same clinic for a minimum of 3 consecutive months during the duration of this investigation.

3. Results and discussion

This section presents a concise summary of the distribution of individuals with diabetes, categorized by gender, age, and level of education. Fig. 1 depicts demographic data of DbM patients for evaluation of the quality of counseling by CPs to provide PH.

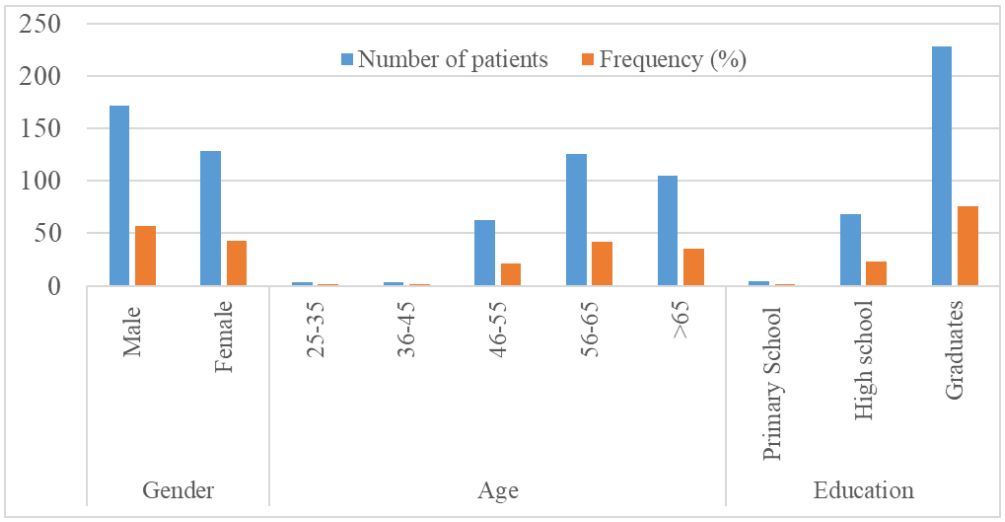

Figure. 1 Demographic data of DbM patients for evaluation of quality of counseling by CPs to provide PH

According to the statistics, there is a higher proportion of male patients (172 patients, 57.33%) than female patients (128 patients, 42.67%). The majority of patients, comprising 42% (126 patients), are aged 56-65. This is followed by patients above 65, accounting for 35% (105 patients). The age categories with the lowest number of individuals are 25-35 and 36-45, each accounting for just 1% (3 patients) of the total population. Regarding education, the majority of patients, accounting for 76% (228 patients), have completed a college or university degree. A smaller proportion, 22.67% (68 patients), have completed high school, and a very tiny percentage, 1.33% (4 patients), have only attended basic school. The demographic distribution emphasizes the high occurrence of DbM among older persons and the educated portion of the population.

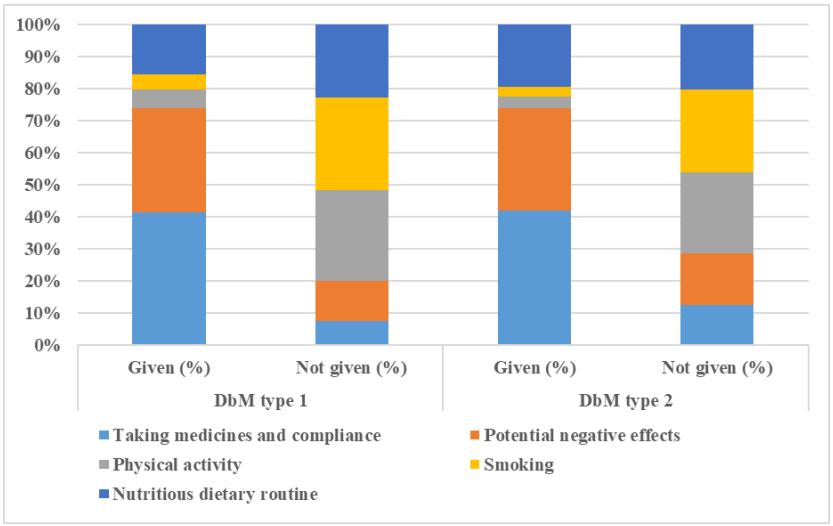

Figure. 2 Evaluation of patient's quality of counseling in the context of diabetes treatment by community pharmacists for Public Health

Fig. 2 illustrates the evaluation of patients' quality of counseling in the context of diabetes treatment by CPs for PH. Fig. 2 assesses the caliber of counseling CPs offer to patients with DbM, categorized into type 1 and type 2 DbM. Among patients with DbM type 1, 76.4% got counseling on medication use and adherence, but only 52.9% of patients with DbM type 2 received such counseling. 59.8% of type 1 patients received counseling on possible harmful consequences, but only 40.3% of type 2 patients received the same counseling. Only 10.6% of type 1 and 4.6% of type 2 patients received physical activity coaching, highlighting a significant disparity.

In comparison, recommendations for quitting smoking were provided to 9.1% of individuals with

DbM type 1 and just 3.7% of those with DbM type 2. Finally, 28.2% of patients with DbM type 1 and 24.5% of patients with DbM type 2 received counseling on a healthy and balanced diet. The data highlights the need to enhance the scope and uniformity of counseling services to improve DbM management and patient satisfaction.

Table 1: The degree of satisfaction by DbM patients towards PC provided by CPs

Degree of satisfaction for PC	**Output Percentage (%)**
Satisfied	60.8
Not Satisfied	20.2

According to Table 1, a substantial majority of 60.8% of patients with DbM express satisfaction with the PC offered by CPs. This signifies a generally favorable welcome and gratitude for the services provided by CPs in controlling their condition. Nevertheless, a notable 20.2% of the patients conveyed discontent over their treatment. This significant minority brings attention to areas that need improvement in primary care delivery, indicating a necessity for improved education, greater communication, and more comprehensive treatment approaches to successfully meet the concerns and requirements of all diverse background patients. This input might be a crucial signal for CPs and healthcare policymakers to enhance and improve patient care services.

4. Conclusion and future scope

The aim of this research is to analyze the counseling and satisfaction levels of patients who visit diabetes clinics in CP to contribute to the PH field. This study aimed to assess the effectiveness of personal computer services provided to individuals with DbM issues. This study employed a cross-sectional research design, utilizing a patient simulation technique and a structured survey. The study sample consisted of 560 chronic pain individuals selected to receive primary healthcare services. The survey has been divided into three sections: demographics, PC methods employed during prescription collection, and satisfaction evaluation regarding the services provided. The findings indicated that PC was provided for medication adherence in individuals diagnosed with type 1 DbM, while it was not adequately available for patients with type 2 DbM. Patients received inadequate counseling regarding the potential negative effects and the necessity of a healthier lifestyle. The level of satisfaction was only 20.2%, indicating a potential lack of quality in PC services.

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